

1. Portable apparatus for deep vein thrombosis
2 (DVT) prophylaxis, comprising:

a substantially inelastic outer shell having an
4 inner wall, the shell being dimensioned for wearing around a
portion of a human extremity having an outer surface;

6 an inflatable/deflatable bladder disposed between
the inner wall of the outer shell and the outer surface of the
8 extremity; and

10 self-contained, battery-operated electrical and
pneumatic circuitry supported proximate the bladder, the
circuitry including an operator control operative to at least
12 inflate the bladder on a regular and periodic basis.

2. The apparatus of claim 1, wherein the circuitry
2 includes:

4 a miniature air compressor to inflate the bladder;
and

6 a pressure sensor in pneumatic communication with
the bladder to terminate the operation of the compressor upon
reaching a pressure established through the operator control.

3. The apparatus of claim 1, wherein the
2 substantially inelastic outer shell is a cast.

4. The apparatus of claim 1, wherein the circuitry

2 further includes means for deflating the bladder upon achieving a predetermined pressure.

5. The apparatus of claim 4, wherein the means for
2 deflating the bladder upon achieving a predetermined pressure includes a controlled leak valve/deflation valve.

6. The apparatus of claim 1, wherein the
2 substantially inelastic outer shell is dimensioned for wearing around an upper portion of a human calf.

7. The apparatus of claim 1, wherein the
2 substantially inelastic outer shell is dimensioned for wearing around a human foot.

8. The apparatus of claim 1, wherein the
2 substantially inelastic outer shell is dimensioned for wearing around at least a portion of a human hand.

9. The apparatus of claim 1, wherein the
2 substantially inelastic outer shell is substantially rigid.

10. The apparatus of claim 1, wherein the
2 substantially inelastic outer shell is composed of a non-stretch fabric.

11. The apparatus of claim 1, further including a
2 sensor for operating the circuitry only when the extremity has
been substantially motionless for a predetermined period of
4 time.

12. Portable apparatus for deep vein thrombosis
2 (DVT) prophylaxis, comprising:

a substantially inelastic outer shell having an
4 inner wall, the shell being dimensioned for wearing around the
upper portion of a human calf;

6 an inflatable/deflatable bladder disposed between
the inner wall of the outer shell and the outer surface of the
8 calf; and

10 self-contained, battery-operated electrical and
pneumatic circuitry supported immediately outside the outer
shell, the circuitry including an operator control operative to
12 at least inflate the bladder on a regular and periodic basis,
the circuitry including:

14 a miniature compressor operative to fill the
bladder with air, and

16 a pressure sensor operative to turn off the
compressor upon reaching a predetermined bladder pressure.

13. The apparatus of claim 12, wherein the
2 inelastic outer shell forms part of a cast.

14. The apparatus of claim 12, wherein the
2 circuitry further includes means for deflating the bladder
upon achieving a predetermined pressure.

15. The apparatus of claim 14, wherein the means
2 for deflating the bladder upon achieving a predetermined
pressure includes a controlled leak valve/deflation valve.

16. The apparatus of claim 12, wherein the
2 substantially inelastic outer shell is substantially rigid.

17. The apparatus of claim 12, wherein the
2 substantially inelastic outer shell is composed of a non-
stretch fabric.

18. The apparatus of claim 14 wherein the
2 substantially inelastic outer shell is dimensioned for wearing
around an upper portion of a human calf.

19. The apparatus of claim 14 wherein the
2 substantially inelastic outer shell is dimensioned for wearing
around a human foot.

20. The apparatus of claim 14 wherein the
2 substantially inelastic outer shell is dimensioned for wearing
around at least a portion of a human hand.